

CLAIMS:

1. A cyclonic separator for separating particles and/or liquids from an airflow comprising:
 - a separating chamber (12; 112; 212);
 - an inlet (5; 105; 205) for letting a flow of air (22) entraining particles and/or
 - 5 liquids into said separating chamber (12; 112; 212); and
 - an outlet (6; 106; 206) for letting a flow of air (28), from which at least a portion of the entrained particles and/or liquids has been separated, out of the separating chamber (12; 112; 212), the outlet (6; 106; 206) having at least one entry (29; 129; 229);
 - means for causing the airflow (22, 23, 25-27) to follow a cyclonic flow pattern
 - 10 through the separating chamber (12; 112; 212) and around an axis (17; 117) for causing cyclonic separation of at least a portion of the particles and/or liquids from the airflow within the separating chamber (12; 112; 212); and
 - at least one drum (18; 118; 218) of which at least one interior surface portion extends circumferentially around said axis (17; 117) and bounds said separating chamber (12;
 - 15 112; 212);
 - characterized in that said at least one interior surface portion extending circumferentially around said axis (17; 117) is rotatable about said axis (17; 117).
2. A cyclonic separator according to claim 1, wherein the inlet (5; 105; 205) and
- 20 the outlet (6; 106; 206) enter and leave, respectively, the separating chamber (12; 112; 212) coaxially with the axis (17; 117) of rotation of the drum (18; 118; 218) bounding the separating chamber (12; 112; 212).
3. A cyclonic separator according to claim 2, wherein the inlet (5; 105; 205) and
- 25 the outlet (6; 106; 206) enter and leave, respectively, the separating chamber (12; 112; 212) at axially opposite ends of the drum (18; 118; 218) bounding the separating chamber (12; 112; 212).

4. A cyclonic separator according to claim 3, wherein an exit opening of the inlet (5) and an entry opening (29) of the outlet (6; 106) face in axially opposite directions, and wherein at least one divider drum (13) situated in, and coaxial with, the separating chamber (12) shields the entry opening (29) of the outlet (6) from the exit opening of the inlet (5).

5

5. A cyclonic separator according to any one of the preceding claims, wherein said at least one divider drum (13) has a circumferential wall with radially extending perforations, of which circumferential wall at least one portion is spaced radially outwardly from the at least one entry portion (29) of the outlet (6).

10

6. A cyclonic separator according to claim 5, wherein the circumferential wall of the divider drum (13) includes an air-grid having at least one portion circumferentially extending around said axis (17).

15

7. A cyclonic separator according to any one of the preceding claims, further comprising a plurality of circumferentially distributed blades (20; 120) for imparting tangential velocity to said airflow.

20

8. A cyclonic separator according to any one of the preceding claims, wherein said rotatable drum (18; 118; 218) is adapted to rotate at a velocity about equal to the tangential velocity of the cyclonic airflow in the separating chamber (12; 112; 212).

25

9. A cyclonic separator according to any one of the preceding claims, including a motorized drive structure (3; 19) for driving the rotation of said rotatable drum (18; 118; 218).

30

10. A cyclonic separator according to any one of the preceding claims, wherein the at least one entry portion (129; 229) of said outlet (106; 206) is arranged spaced from an end (237) of the separating chamber (112; 212) opposite an end where the inlet (105; 205) debouches into the separating chamber (212) and facing in a direction having a radially outward component.

11. A cyclonic separator according to any one of the preceding claims, wherein the at least one entry portion (129; 229) of the outlet (106; 206) is provided with a filter.

12. A cyclonic separator according to claim 11, wherein said filter is rotatable about said axis.

- 5 13. A vacuum cleaner having a motor (3), a fan (4) coupled to said motor (3), air guiding conduits (5; 6; 7; 9; 10) and a cyclonic separator (8) having a separating chamber (12; 112; 212) for separating particles and/or liquids from an airflow through the air guiding conduits and the separating chamber, which airflow is generated by the motor (3) and the fan (4), characterized in that the cyclonic separator (8) is a cyclonic separator as claimed in any
10 one of the preceding claims.